

DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: On-site Inspection

P111163860

FACILITY: Fairsalvage Company		SRN / ID: P1111
LOCATION: 2731 East Grass Lake Road, CLARE		DISTRICT: Bay City
CITY: CLARE		COUNTY: CLARE
CONTACT: Jonathon Fair , President		ACTIVITY DATE: 07/28/2022
STAFF: Nathanael Gentle	COMPLIANCE STATUS: Compliance	SOURCE CLASS: MINOR
SUBJECT: Scheduled Onsite Inspection FY 2022		
RESOLVED COMPLAINTS:		

On July 28, 2022, AQD staff conducted a scheduled onsite inspection at Fair Salvage Company, SRN P1111. Staff arrived onsite at 9:15 AM and departed at 10:25 AM. The purpose of the inspection was to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control of Natural Resources and Environmental Protection Act, 1994 Public Act 451; Michigan Department of Environment Great Lakes and Energy, Air Quality Division (AQD) Administrative Rules; and to evaluate compliance with the facilities Permit to Install, PTI No. 25-20. EGLE staff were assisted onsite by Mr. Jonathon Fair and Ms. Emerald Forbes. At the time of inspection, the facility was found to be in compliance.

Facility Background and History

Fair Salvage Company (FSC) operates a scrap metal yard at 2731 East Grass Lake Road, Clare, Michigan. The facility receives a variety of ferrous and non-ferrous metal-containing materials including but not limited to, copper, brass, radiators, heater cores, brass shells, turnings, pipes, aluminum, sheet iron, car bodies, and E-scrap. One Permit to Install (PTI) is associated with the facility, PTI No. 25-20. The permit encompasses a hammermill shredder and the associated engines operated at the facility. PTI No. 25-20 was issued to the facility on May 21, 2020.

Materials received at the site are separated and sorted based on material type. Materials that need to be broken down into smaller pieces are processed through the onsite shredder. After passing through the shredder, materials pass through a ferrous/non-ferrous separation system. Scrap iron and ferrous metals are separated from non-ferrous material using magnetic systems and a cyclone system. Non-ferrous material is conveyed through a non-ferrous separation system where non-ferrous materials are separated from non-metallic materials. Three categories of material streams result from the process. These include Frag (scrap steel), Zorba (scrap aluminum), and ASR (auto shredder residue). Frag and Zorba are sold, while the ASR is sent to landfills for disposal.

Fair Salvage Company is a minor source for all air pollutants. No complaints are on file for the facility. The facility is largely surrounded by farmland and undeveloped land. Residences near the facility include the company president and his immediate family. As a new PTI, this was the first AQD inspection completed at the facility.

Compliance Evaluation

EU-Shredder

EU-Shredder is a 3TEK Bravo 6280 Mobile Diesel Hammermill Shredder. The unit is capable of processing up to 20 gross tons of product per hour. While the unit is a mobile shredder, the unit is

operated strictly at the Fair Salvage Company, Clare location. Notification of the completion of installation of the unit was provided to the AQD on June 8, 2020, S.C. VII. 1.

EU-Shredder is equipped with a water injection system, S.C. III. 1. Water for the water injection system is obtained from onsite water storage tanks. The tanks are filled with water from an onsite well. Staff report water levels in the tanks are checked multiple times a day to ensure water is always available for EU-Shredder. Water injection rates are adjusted depending on the moisture level of the material being processed and weather conditions. Staff explained material is easier to process and sort at the right moisture level. The process works best when material is wet. However, if material is too wet, the separation equipment is less efficient. As a result, water injection rates are periodically adjusted to ensure optimal moisture levels. Records of daily water injection rates are maintained and were provided for the months of July 2021, November 2021, March 2022, and May 2022, S.C. VI. 2. Review of the water injection records show the water injection rate is continually adjusted as needed. During the period of records reviewed, injection rates ranged from 0 gpm to 612 gpm.

The water injection system serves as a control for visible emissions (VEs). Testing of visible emissions is required at the request of the District Supervisor. At this time, VE testing has not been required for the facility. During the onsite inspection, EU-Shredder was operating. No visible emissions were observed. The water injection system was operating, and steam was observed to be exiting the inlet to the shredder.

EU-Shredder is equipped with a cyclone, S.C. III. 2. The cyclone is designed to pull out lighter material. Staff report a pre-check is completed daily on the cyclone. The control device is visually monitored during operation to ensure it is operating properly. The cyclone is a closed loop system that recycles air. Exhaust gases from the cyclone are recirculated and not exhausted to the ambient air, S.C. VIII. 1.

The permittee shall not process any asbestos tailing or waste materials containing asbestos in EU-Shredder, S.C. II. 2. Staff report materials brought to the facility are inspected at the scale as they enter the facility. Asbestos containing material is rejected before it enters the facility.

Machinery and appliances received at the facility are reviewed for the presence of refrigerants. Facility staff report no appliances are taken if compressors are present. These procedures ensure freon or other chlorofluorocarbons/halogenated chlorofluorocarbons (CFCs/HCFCs) are not processed in EU-Shredder, S.C. III. 4.

Vehicles to be processed in EU-Shredder are first inspected and prepared to be processed, prior to shredding the material. Batteries are removed and not processed, S.C. II. 3. The facility reports batteries have value as a scrap commodity and there is therefore no reason for them to be shredded. Fuel tanks shall not be processed unless they are flattened or punctured, S.C. II. 4. Staff report onsite procedures are to cut fuel tanks in half prior to them being processed in EU-Shredder. All vehicles are drained of any fluids, S.C. III. 3. Fluids removed from vehicles are disposed of through a waste disposal company. Vehicles are inspected for mercury switches to ensure all mercury switches are removed prior to vehicles being processed, S.C. III. 5. Staff report finding mercury switches is becoming less common as processing older vehicles containing mercury switches continues to be less frequent at the facility.

Automotive shredder residue (ASR), also known as fluff, produced by the shredding process is staged onsite in a contained area with three walls. Special Condition III. 6. limits the amount of fluff staged onsite to a total volume not to exceed 500 cubic yards at a time. ASR produced at the facility is staged until it is hauled to a landfill for disposal. Facility staff said ASR produced is trucked out frequently to limit material accumulation onsite. By removing the ASR frequently, the facility reports it is not anticipated the facility will ever accrue a staged volume of 500 cubic yards. In addition, the frequent removal of ASR mitigates the possibility from a fire starting on the pile and reduces the need for applications of water to the ASR pile, S.C. III. 9. Records of ASR removal from the facility were provided for the months of July 2021, November 2021, March 2022, and May 2022, S.C. VI. 4. The records provided demonstrate ASR is frequently removed from the site. For the period of records reviewed, ASR was removed at least weekly. During the onsite inspection, the staged volume of ASR was observed to be well below 500 cubic yards.

Special Condition III. 8. requires the permittee submit a written plan to the AQD District Supervisor demonstrating compliance with SCs II.2, II.3, II.4, and SCs III.3, III.4, III.5, III.6, III.7. A copy of the written plan was submitted to the district supervisor. The written plan details how the facility will maintain compliance with the conditions. A review of onsite activities confirmed the facility is following their written plan and maintaining compliance with the conditions detailed in the plan, S.C. III. 8.

A Malfunction Abatement Plan (MAP) is in place and on file for the facility, S.C. III. 11. Routine maintenance is conducted on the unit to ensure it is operating properly.

Special Condition II. 1. limits the facility from processing not more than 48,000 tons per 12-month rolling time period of material through EU-Shredder. Records of material processed in EU-Shredder for the last 12 months were requested, S.C. VI. 2. The facility provided records for the last 12 months for Frag and Zorba processed in EU-Shredder. During the last 12 months, 23,501 tons of Frag and 1350.171 tons of Zorba were processed through EU-Shredder. After review, it was determined that ASR totals should be included in material totals processed in EU-Shredder. This was communicated with the facility; moving forward ASR will be included in total materials 12 month rolling calculations. The facility already maintains records of ASR materials processed. Records of daily and monthly ASR totals were provided and reviewed for the months of July 2021, November 2021, March 2022, and May 2022. Based on the records reviewed, it was estimated the facility processes approximately 10,000 tons of ASR per year. Based on these estimates in addition to Frag and Zorba totals provided for the last 12 months, it is estimated the facility processes around 34,851.171 tons of material per 12 months. This value is below the facilities limit of 48,000 tons.

FG-Tier4Engines

FG-Tier4Engines is comprised of three emission units. Three US EPA Tier 4 certified engines are utilized as part of scrap metal shredding operations. All three engines are manufactured by Caterpillar. EU-Engine1 has a maximum power output of 1,125 HP, S.C. IV. 2. EU-Engine1 is used to power the scrap metal shredder. EU-Engine2 has a maximum power output of 173.1 HP and is used to power the ferrous/non-ferrous separation system, S.C. IV. 3. EU-Engine 3 has maximum power output of 73.8 HP and is used to power the non-ferrous separation system, S.C. IV. 4. The engines are only operated for the purpose of providing operational support to EU-Shredder, S.C. III. 3. A

copy of the most recent fuel supplier certification was provided, S.C. VI. 6. The engines are fueled with No. 2 ultra-low sulfur diesel, S.C. II. 1.

All three engines are certified, S.C. III. 4. EPA certification records were provided for each engine demonstrating the units conform with the clean air act, S.C. VI. 2. The permittee operates and maintains the engines according to the manufacturer specifications, S.C. III. 2. Staff report the facility has a contract with Caterpillar to ensure all maintenance is done according to caterpillar specifications. Maintenance is completed according to a schedule put in place by the manufacturer. Minor maintenance is completed by facility staff. Repairs, and unit inspections are conducted by the manufacturer. Records are maintained for all maintenance activities. Maintenance records were reviewed and demonstrate maintenance is completed regularly. Staff report if malfunctions arise, they are addressed promptly.

Performance testing of any engine in FG-Tier4Engines is required if any engine is not installed, configured, operated, and maintained according to the manufacturer's instructions, or the permittee changes the emission related settings in a way that is not permitted by the manufacturer, S.C. V. 1. As previously discussed, the permittee has a contract with Caterpillar to ensure the engines are operated and maintained according to the manufacturer specifications.

Each engine is equipped with a non-resettable hours meter, S.C. IV. 1. Staff report the hours on each engine are wrote down daily. The handwritten hours are then later transcribed into a facility spreadsheet. Records of monthly and 12-month rolling operating hours for all three engines were provided for the period of June 2020 to June 2022, S.C. VI. 4. During the period of records reviewed, EU-Engine1 was operated the most during September with 260 hours of operation. The largest 12-month rolling for EU-Engine1 occurred at the end of May 2022 with 2041 hours. EU-Engine2 was operated the most during December 2021 with 250 hours. The largest 12-month rolling for EU-Engine2 occurred at the end of May 2022 with 2290 hours. EU-Engine3 was operated the most during August 2021 with 270 hours The largest 12-month rolling for EU-Engine3 occurred at the end of November 2021 with 2051 hours. Special Condition III. 1. limits the operation of any engine in FG-Tier4Engines to no more than 4,100 hours per 12-month rolling time period. During the period of records reviewed, operating hours for all three engines were well below the permitted limit. Facility staff report the facility operates under a special use permit that limits the times the facility can operate each day; as a result, staff do not anticipate the facility will ever come near the hourly operating limit stipulated by PTI 25-20.

FG-Facility

Fair Salvage Company has a source wide emission limit of 0.25 lb/yr hexavalent chromium (CAS No. 18540-29-9), S.C. I. 1. Staff report the facility utilizes a software designed for metal processors to calculate and track hexavalent chromium emissions from the facility, based on material amounts processed at the facility. Records of hexavalent chromium emissions were provided and reviewed for the period of May 2020 to June 2022, S.C. VI. 2. The emission factor used for the calculations was 5.22×10^{-6} lb hexavalent chromium/ ton of metal processed. During the period of records reviewed, the largest monthly emissions was 5.7×10^{-6} lbs of hexavalent chromium for the month of May 2022. Records of 12-month rolling totals are maintained. During the period of records reviewed, the highest 12-month rolling total was 5.7×10^{-5} lbs of hexavalent chromium. During the

period of records reviewed, the facility was well below the permitted limit for hexavalent chromium of 0.25 lb/yr.

Summary

Fair Salvage Company (FSC) operates a scrap metal yard in Clare, Michigan. The facility is a minor source for all air pollutants. One Permit to Install (PTI) is associated with the facility, PTI No. 25-20. The permit encompasses a hammermill shredder and the associated engines operated at the facility. AQD staff conducted a scheduled onsite inspection at Fair Salvage Company, SRN P1111 on July 28, 2022. At the time of inspection, the facility was found to be in compliance.

Nathanael Dentel

NAME

DATE 8/25/2022

SUPERVISOR Chris Hare